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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/107,230	06/30/1998	SANJAY AIYAGARI	CISCP047	7733

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EXAMINER

TRINH, DUNG N

ART UNIT PAPER NUMBER

2663

DATE MAILED: 10/22/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/107,230

Applicant(s)

AIYAGARI ET AL.

Examiner

D. Trinh

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 June 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 and 19-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,5,8,9,11,14 and 19-22 is/are rejected.
- 7) ☒ Claim(s) 3,4,6,7,10,12,13,15 and 16 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 101

2. Claims 21 and 22 are rejected under 35 U.S.C. 101 because the claimed invention is non-statutory. The claimed data frame performs no functions.

Claim Rejections - 35 USC § 112

3. Claim 19 is rejected under 35 U.S.C. 112, first paragraph, as containing subject matter of undue breadth; *In re Hyatt*, 708 F.2d 712, 714-715, 218 USPQ 195, 197 (Fed. Cir. 1983). Claim 19 is nonenabling for the scope of the claim because it contains only a single means (framing circuitry) to cover every conceivable structure for achieving the stated result while the specification discloses at most only those known to the inventor.

Claim Rejections - 35 USC § 103

4. Claims 1, 2, 5, 8, 9, 11, 14, and 19-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Seazholtz et al. (US 6,246,695) in view of Hita de la Torre et al. (US 5,533,028).

Regarding claims 1, 2, 5, 11, 14, 19, and 21, Seazholtz discloses a system, see Fig. 1, in which HDSL interface 34 (first modem or modulator-demodulator), receiving

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data stream from LAN interface 33, communicates with HDSL interface 36 (second modem), see col. 10, lines 30-36. T1/E1 bandwidth is used for connectivity (the frame format including a field in each data payload block for enabling a feature corresponding to one of T1 and E1 transmission protocols, employing the field for transmission of a portion of payload data), see col. 6, lines 38-48. It is inherent that such communication is done with HDSL frame format as a signal embodied in a carrier wave (claim 21) because interfaces 34 and 36 are HDSL. Seazholtz differs from the claimed invention in that Seazholtz does not explicitly disclose that a field used for data transmission is not conventionally used for transmitting data. However, Hita de la Torre discloses that a guard field G that is not necessary for the current type of transmission (not conventionally used for transmitting) is used for transmitting essential information such as control data (employing the field for transmission), see Fig. 2 and col. 3, lines 45-65. This increases bandwidth usage efficiency and translates into reduction in complexity and cost. Therefore, to one skilled in the art, it would have been obvious in Seazholtz to transmit using bandwidth not necessary for the current type of transmission (ie. HDSL and T1/E1), as taught by Hita de la Torre, to increase bandwidth usage efficiency and reduce complexity and cost.

Regarding claims 8 and 9, Seazholtz discloses a PSTN with HDSL interface 34 at the subscriber premises and HDSL interface 36 at central office 10, see col. 4, lines 37-43.

Regarding claim 20, the combination of Seazholtz and Hita de la Torre discloses a system as discussed previously. This combination differs from the claimed invention

in that it does not explicitly disclose an embodiment in the form of a computer readable medium having computer program instructions. However, implementing a system in the form of software (ie. computer program instructions stored on computer readable medium) is known in the art because software can be easier and cheaper to modify and upgrade. Therefore, to one skilled in the art, it would have been obvious to implement the system of Seazholtz and Hita de la Torre as software to benefit from reduced complexity and cost of upgrading and modification.

Response to Arguments

5. Applicant's arguments filed June 17, 2002 have been fully considered but they are not persuasive.

Regarding claims 21 and 22, Applicant presented arguments based on the MPEP, a training example from 1996, and Lowry, see Remarks, p. 5. In response, examination must be done in accordance with the MPEP, not examples. The MPEP and Lowry are discussed below.

MPEP 2106 IV.B.1(a)

Applicant argued, see Remarks, p. 5, section III, that in order to constitute statutory subject matter, the claims need not recite specific functions. As a basis for this argument, Applicant appears to have relied on and emphasized the following *partial* text from MPEP 2106 IV.B.1(a):

“A computer-readable medium encoded with a data structure defines structural and functional interrelationships ... and is thus statutory.” [sic]

In response, Applicant appears to assert that any data structure can be made statutory by merely encoding such structure in a computer-readable medium. This is false because this assertion is based only on partial guidance from the MPEP.

According to the MPEP, the *complete* text cited above by Applicant actually states:

“... a claimed computer-readable medium encoded with a data structure defines structural and functional interrelationships between the data structure and the computer software and hardware components **which permit the data structure’s functionality to be realized**, and is thus statutory.” (emphasis added)

This shows that, in order to be statutory, not only does the data structure have to be encoded in a computer readable medium, it (the data structure) must also permit the data structure’s functionality to be realized. In claim 21, the data frame comprises overhead fields and payload fields. These claimed fields are merely data and do not perform any function. Therefore, the data frame of claim 21 cannot cause any computer S/W and H/W component to permit the fields’ functionality to be realized, as required by MPEP 2106 IV.B.1(a).

In re Lowry, 32 USPQ2d 1031 (Fed. Cir. 1994)

Applicant stated that “the court in Lowry approved a claim defining a memory containing a certain data structure”, see Remarks, p. 5, section III. In response, as correctly pointed out by Applicant, the court in Lowry did approve a claim defining a memory containing a *certain* data structure. However, this does not indicate that a memory containing *any* data structure is statutory. Specifically, the court held that “Lowry’s claims **dictate how application programs manage information**. Thus,

Lowry's claims **define functional characteristics of the memory.**" See Lowry at 1034 (emphasis added). Nothing in claim 21 dictates anything applies any part of the data frame. Therefore, nothing in claim 21 define *functional* characteristics of the data frame.

Applicant argued that claims 21 and 22 are statutory because the court in Lowry held that claims are statutory as long as "the claims require specific electronic structural elements which impart a physical organization on the information stored in memory." In response, Applicant's emphasis from Lowry actually supports Examiner's position because the court does hold that "claims require specific electronic structural elements which **impart a physical organization on the information stored in memory.**" (emphasis added). This shows that the function of imparting a physical organization on the information stored in memory is performed. Nothing in claim 21 indicates that any function is being performed. The court in Lowry also held that "... Lowry's [data structure] do not represent merely underlying data in a database." See Lowry at 1034.

Regarding claim 19, Applicant reiterated that replacing "means" with "framing circuitry" overcomes the rejection of a single-means claim, see Remarks, p. 6. In response, as stated in the office action mailed March 27, 2002, deleting the term "means" does not change the fact that the claimed apparatus still comprises only a single means (ie. framing circuitry). If a claim has only one component or entity performing the functions of the claim, such claim is still a single-means claim even if the term "means" is not explicitly stated. Applicant added that the term "framing circuitry" does not cover every conceivable means for employing the field for transmission of a portion of the payload data. That is precisely the problem because "framing circuitry" is

used to cover every conceivable means for employing the field when there are other means (eg. Software, as admitted by Applicant himself) for employing the field.

Allowable Subject Matter


6. Claims 3, 4, 6, 7, 10, 12, 13, 15, and 16 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

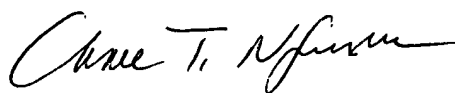
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to D. Trinh whose telephone number is 703-306-5620. The examiner can normally be reached on Monday-Friday, 8am-3pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chau Nguyen can be reached on 703-308-5340. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9314.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist at 703-305-4700.

D. Trinh 
October 18, 2002



CHAU NGUYEN
SUPERVISORY PATENT EXAMINER
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